IN THE SPECIFICATION:

Please amend paragraph [0002], as follows.

--**[0002]** In recent years, high-performance optical systems having low remaining aberration have been required in a variety of fields. For example, in the photolithography process wherein semiconductor devices and the like are produced, a projection lens (projection optical system) having a superior imaging performance, and suppressing wavefront aberration, ~~have~~ has been demanded in order to correctly transfer a circuit pattern formed on a reticle or a photo-mask (hereinafter, collectively referred to as reticles) at a predetermined magnification (reduction ratio) to a semiconductor wafer or the like on which a photosensitive material is applied. In particular, recently, to meet the demand for a further miniaturization of semiconductor ~~device~~ devices, the minimum pattern that a projection lens can ~~transfer,~~ transfer is frequently transferred using the limit of the imaging capability of the projection lens ~~to the limit~~. In a projection lens, therefore, it is necessary to bring the remaining wavefront aberration as ~~nearly~~ close to zero as possible. For this purpose, endeavors to reduce the remaining aberration are being made from the viewpoints of both optical design and production.--

Please amend paragraph [0004], as follows.

--**[0004]** In the inspection of the wavefront aberration of the projection lens for use in a semiconductor exposure system, the performance of the projection lens with respect to incident lights in various polarization states must be grasped very strictly. In this case, due consideration must be given to the influence of the wavefront configuration caused by a slight birefringence existing in a projection lens (lens to be

measured). For this purpose, it is necessary to measure the amount of retardation of the lens to be measured caused by birefringence and the average wavefront of the wavefronts separated by the birefringence (hereinafter, referred to as average wavefront). However, in the conventional measuring method, wherein light flux in one polarization state is used, the wavefront of a lens to be measured in which birefringence ~~exists,~~ exists cannot be measured with a high accuracy.--

Please amend paragraph [0008], as follows.

--**[0008]** Fig. 2 is a diagram explaining the polarization state of a light on the exit pupil of the lens 5 from Fig. 1 to be measured ~~shown in Fig. 1~~; and--

Please amend paragraph [0012], as follows.

--**[0012]** Next, the specific calculating procedure when determining the retardation existing in the lens 5 to be measured, and the average wavefront, from the transmitted wavefronts of the two polarized lights which have been calculated by the wavefront calculation means 11 in the birefringence calculating means 12, will be discussed.--

Please amend paragraph [0016], as follows.

--**[0016]** Here, letting Lfx and Lsx be an x-axis component of the f-orientation component Lf and the s-orientation component Ls, respectively, and Lfy and Lsy be ~~an~~ a y-axis component of the f-orientation component Lf and the s-orientation component Ls, respectively, the following equations are obtained.--

Please amend paragraph [0019], as follows.

--**[0019]** Fig. 3 is a schematic view showing the main section of a wavefront measuring device in accordance with a second embodiment of the present invention. In this embodiment, the wavefront aberration of a lens as an object to be measured, is measured using a Fizeau-type interferometer. The Fizeau-type interferometer requires a light source emitting light fluxes having a long coherent distance, but as is well known, allows a more accurate wavefront measurement than in the case of the Twyman-Green-type interferometer. As compared with the interferometer in Fig. 1, the interferometer in this embodiment is provided with a Fizeau lens 41 in place of a collimator lens 4. The Fizeau lens 41 has a Fizeau surface 42, and the reflected ~~lights~~ light from this Fizeau surface 42 becomes a reference light 102 travelling to the beam splitter 3. The light passing through the surface 42 makes a round trip to the lens 5 to be measured, and then becomes a light 103 to be inspected travelling to the beam splitter. The reference light 102 and the light 103 to be inspected are combined to form an interference pattern. Since the measurement principle and the measuring procedure thereafter are the same as those in the case of the Twyman-Green-type interferometer in the first embodiment, description thereof will be omitted.--

Please amend paragraph [0021], as follows.

--**[0021]** With regard to the average wavefront and the retardation, ~~any~~ either one of them may be adopted as a measuring result.--

Please amend paragraph [0022], as follows.

--**[0022]** As is evident from the foregoing, in accordance with the above-described embodiments, a measuring device and a measuring method ~~is~~ <u>are</u> achieved which allow the retardation and the average wavefront of ~~lens~~ <u>lenses</u> or other optical materials wherein birefringence exists, to be measured with a high accuracy.--

Please amend paragraph [0023], as follows.

--**[0023]** In particular, by utilizing the interferometer, the average wavefront and the retardation of <u>a</u> lens to be measured including birefringence can be accurately measured. This enables the correction of the lens to be measured, and/or the simulation of the imaging performance thereof to be performed with a high accuracy.--